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Series B.

TAXONOMY

(being the continuation of Stylops)

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PROCEEDINGS OF THE
ROYAL ENTOMOLOGICAL SOCIETY
OF LONDON

SERIES B. TAXONOMY

VOLUME 13. 1944.

MESSOR AEGYPTIACUS EMERY SUBSPECIES *CANALICULATUS* SUBSP. N. (*STRIATICEPS* SANTSCHI? (1923) *NEC* ER. ANDRÉ (1883)) (HYM. FORMICIDAE)

By Horace DONISTHORPE, F.Z.S., F.R.E.S.

Department of Entomology, British Museum (Nat. Hist.).

♀. Black, shining, mandibles and last four joints of the tarsi reddish, furnished with sparse outstanding golden hairs, forming a row on the clypeus. Psammophores present. *Head* large, broad, slightly transverse, very slightly broader posteriorly, sides almost straight, posterior angles rounded, posterior border slightly emarginate in middle. Finely longitudinally striate, more strongly so on cheeks and on disc; puncturation consisting of fine, small, shallow, scattered punctures; *mandibles* massive, broad, triangular, deeply longitudinally striate, masticatory border armed with two large broad rounded teeth at apex, and a number of smaller teeth behind, worn almost flat (these are more visible on the underside); *clypeus* transverse, anterior border slightly excavate in middle, sinuate at each side, disc convex and rather strongly longitudinally striate; *frontal area* rather shallow, more finely striate than clypeus, rounded posteriorly; *frontal carinae* with sharp raised rims, slightly divergent posteriorly; *eyes* moderate, round oval, slightly convex, with many facets; *antennae* fairly long; *scape* narrow and somewhat curved, not reaching posterior margin of head; *funiculus* gradually increasing in breadth to apex, first joint slightly longer than the rest, last joint slightly longer than the one preceding it. *Thorax* not long though longer than broad, constricted in middle; *pronotum* large, round, convex, furnished with a neck raised at anterior margin, anterior angles and sides rounded, neck rather rugosely punctured, space between neck and disc transversely striate, disc irregularly and finely longitudinally striate, sides more evenly and strongly so; *mesonotum* longer than broad, convex, rather sharply pointed at apex, narrowed towards base, finely longitudinally striate, and with sparse, shallow, scattered punctures, sternite of mesothorax rather strongly transversely striate; furrow between mesonotum and epinotum rather deep and transversely striate; *epinotum* armed with a rather broad rounded projection on each side, which possesses sharp edges slightly bending outwards and downwards, the *dorsal surface* longer than the declivity and hollowed out, forming a furrow before and between the projections, transversely striate, *declivity* rather abrupt, flat, transversely striate, sides of epinotum transversely striate, sternite and episternite of metathorax longitudinally striate; *peduncle of petiole* rather long with a slight projection on each side before middle, *node of petiole* high, rounded above and at sides, posterior surface flat; *post-petiole* transverse, rounded above and at sides, not as high as node of petiole. *Gaster* very shining, sculpture very finely coriaceous and with some small, sparse, shallow, scattered punctures, more abundant on first segment. *Legs* moderate. *Long.* 9 mm. to 10·5 mm.

Type in the British Museum (Natural History).

☿. The workers vary in size, the smallest measuring 5·5 mm. The structure and sculpture is the same as in the soldiers, except that the head is longer and narrower, not being transverse. The pronotum is reddish in some of the smaller workers, and in a few small specimens the thorax is entirely reddish.

Described from a number of soldiers and workers sent to me by Mr. W. Pickles from Algeria. He informed me that he has found them on several occasions in conflict with *Messor barbarus barbarus* L. In 1923 Santschi wrote

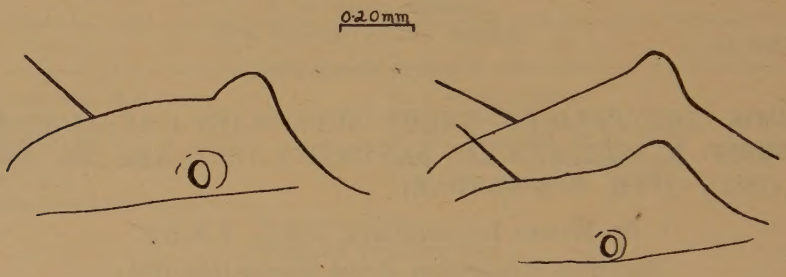

Fig. 1.—*Messor aegyptiacus* Emery subsp. *canaliculatus* subsp. n. Epinotum in profile and viewed obliquely.

of *Messor aegyptiacus* Emery (1878) as a species which is typical of a group of desert, or semi-desert, forms. Emery in the *Genera Insectorum* (1921) treated *aegyptiacus* as a subspecies of *Messor barbarus* L. In my opinion Santschi's

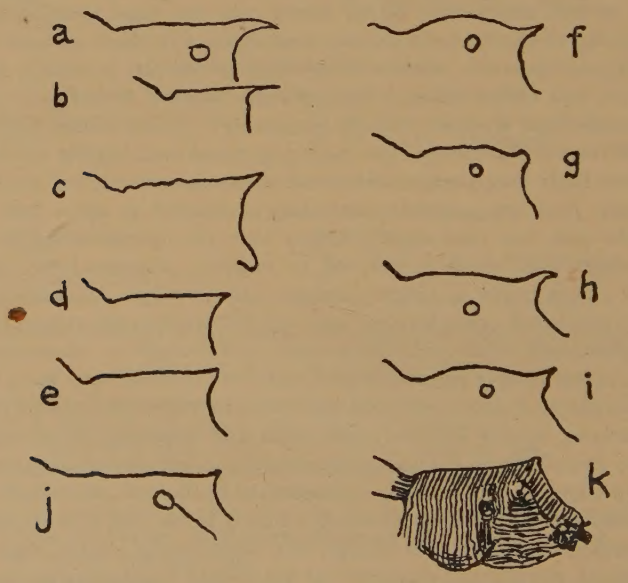

Fig. 2.—" Profil de l'épinotum chez les diverses variétés du *Messor aegyptiacus* Em." (a) v. *foreli* larger ☿; (b) ibid. smaller ☿; (c) v. *fossulatus* larger ☿; (d) ibid. smaller ☿; (e) v. *brevispinosus* ☿; (f) v. *aegyptiacus* ☿; (g) v. *tunetinus* ☿; (h) v. *striatulus* larger ☿; (i) v. *felah* larger worker; (j) *Messor striaticeps* André (type) ☿; (k) ibid. oblique view.

view is correct, for the epinotum of *barbarus* is totally unarmed, whereas in *aegyptiacus*, and the allied forms it is armed with spines, teeth, or projections. Santschi gives a diagram (which is reproduced here) showing the epinotum in profile of the different forms; but for what he calls *striaticeps* André he also gives an oblique view. This is evidently not Er. André's *striaticeps*, for that insect has a sharp spine to the epinotum. André in his original description (1883 [1]) writes—" d'épines bien accentuées au metanotum " (now called the epinotum). Furthermore the specimens of *striaticeps* in the British Museum possess such spines, and one of these, ex coll. Donisthorpe, bears Forel's identification label. Santschi does not give a description of *striaticeps*, but I think it is probable that his figure refers to our insect, though it does not really agree with it. Both occur in Algeria; but in any case Santschi's ant requires a new name as it is clearly not *striaticeps* André.

Karawajew redescribed Emery's *striatulus* (1891) under the name of *curvispina* (1912), which latter name sinks, of course, as a synonym.

I am indebted to Dr. H. E. Hinton for the outline drawings, and to Mr. W. H. T. Tams for the reproduction of Santschi's diagram.

The forms figured by Santschi are as follows.

1. *Messor aegyptiacus* Emery, 1878, *Ann. Mus. Stor. nat. Genova* **12** : 57 (*Messor barbarus* L. subsp. *aegyptiaca* Emery in *Genera Insectorum*).

2. *Messor aegyptiacus* Emery var. *brevispinosus* Stitz, 1917, *Mitt. zool. Mus. Berlin* **8** : 344 (*Messor barbarus* L. subsp. *striaticeps* Er. André var. *brevispinosa* Stitz in *Genera Insectorum*).

3. *Messor aegyptiacus* Emery var. *felah* Santschi, 1923, *Rev. suisse Zool.* **30** : 321.

4. *Messor aegyptiacus* Emery var. *foreli* Santschi, 1923, *Rev. suisse Zool.* **30** : 322.

5. *Messor aegyptiacus* Emery var. *fossulatus* Santschi, 1923, *Rev. suisse Zool.* **30** : 323.

6. *Messor aegyptiacus* Emery var. *striatulus* Emery, 1891, *Expl. Sc. Tunisie* : 11, 12. (*Messor barbarus* L. subsp. *striaticeps* Er. André var. *striatula* Emery in *Genera Insectorum*) = *curvispinosus* Karawajew, 1912, *Rev. russe Ent.* **12** : 10. (*Messor barbarus* L. subsp. *striaticeps* Er. André var. *curvispinosa* Karawajew in *Genera Insectorum*.)

7. *Messor aegyptiacus* Emery var. *striaticeps* Santschi, 1923, *Rev. suisse Zool.* **30** : 321, *nec* Er. André 1883.

Literature.

André, Er., 1883, *Spec. Hym. Europe Algérie* **2** *Fourmis* : 356.
Emery, C., 1878, *Ann. Mus. Stor. nat. Genova* **12** : 57.
——, 1891, *Expl. Sc. Tunisie Fourmis* : 11, 12.
——, 1921, *Genera Insectorum* Fasc. 174a : 69–73.
Karawajew, W., 1912, *Rev. russe Ent.* **12** : 10.
Santschi, F., 1923, *Rev. suisse Zool.* **30** : 321.
Stitz, H., 1917, *Mitt. zool. Mus. Berlin* **8** : 344.

[1] In the *Genera Insectorum* the date is given as 1882, but as pointed out in André's work (before the index) pages 281–548 were published in 1883.

A CONCHASPID FROM KURDISTAN AND ITS IMPORTANCE IN THE PHYLOGENY OF THE DIASPIDAE (HEMIPTERA)

By F. S. Bodenheimer, F.R.E.S.

(*Hebrew University, Jerusalem*).

During a trip through Iraqi Kurdistan in October 1942 one specimen of a Conchaspid was collected on *Ephedra alte* near Shuarta. This is the first occasion on which a member of this family has been discovered in the Palaearctic region; all other species are Neotropic, with the exception of *Conchaspis socialis* Green. This distribution in itself proves the antiquity of the family.

The full description of this insect, which I have named *Archaspis ephedrae*

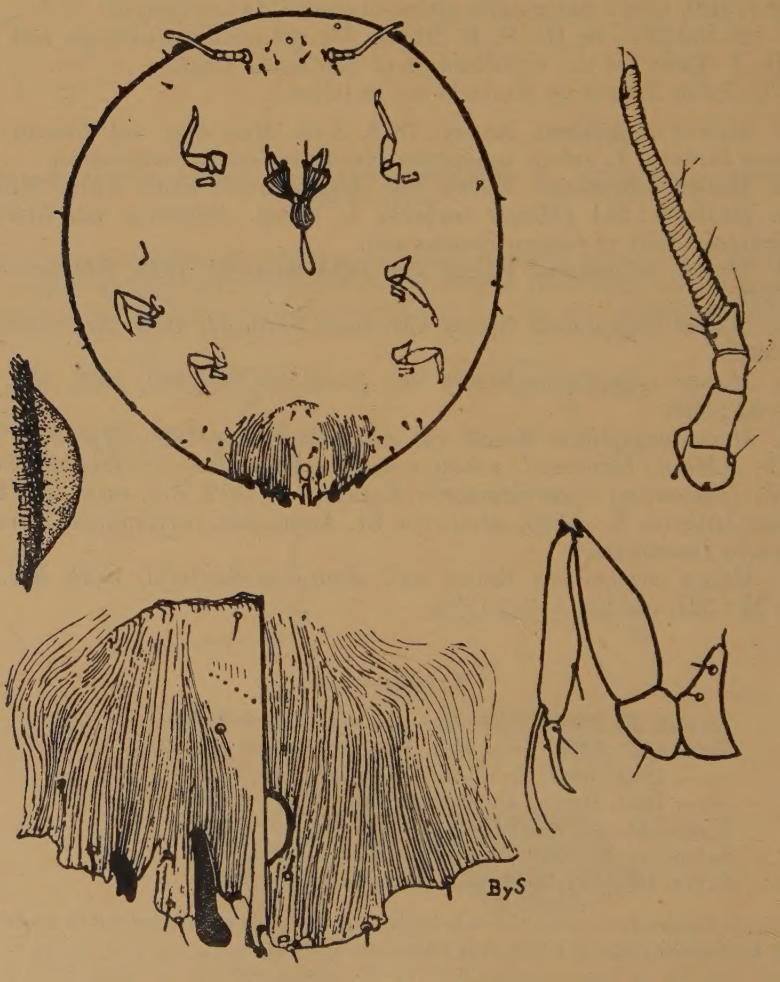

Fig. 1.—*Archaspis ephedrae* Bodenheimer. Adult female, antenna, scale, hind leg and pygidium of adult female.

gen. and sp. n., has appeared elsewhere (1943, *Mem. Direct. Gen. Agric. Iraq*). The genus differs from *Conchaspis* Cockerell in having true pygidial lobes, a clearly defined body segmentation, the eyes in a marginal position, and the claws very long and slender without the spur or swelling in the basal region of the inner margin.

The features which characterise the new insect as belonging to the CONCHASPIDAE are as follows :—

1. The structure of the female scale with exuviae wanting.
2. The presence of 3 pairs of spiracles in the typical position; these being caudad of the legs it is obvious that the third pair are the spiracles on the first abdominal segment. Balachowsky's assumption that all three pairs of spiracles are thoracic is not tenable.
3. Legs lacking tibio-tarsal articulation, but not inserted as close to the margin as in the known species of the genus *Conchaspis*.

The antennae of the new species are 5-jointed and strongly resemble the typical larval antennae of the DIASPIDAE. The antennae of the female are similar to those of the larva in the only known Conchaspid larva (Newstead).

Finally, the character of the last abdominal segments is of importance. The writer was never convinced by Stickney's theory that the PHOENICOCOCCIDAE were the ancestors of the DIASPIDAE. The tendency to form pygidial-like structures has obviously originated in various families, but no true lobes are known in any Phoenicococcid. Newstead's theory that the CONCHASPIDAE are the true ancestors of the DIASPIDAE is much strengthened by the discovery of the genus *Archaspis* in which, in addition to the primitive scale and the pygidial character of the terminal abdominal segments, true pygidial lobes and larval antennae of a Diaspid type occur. Unfortunately the specimen did not permit of a study of the integumental glands.

The CONCHASPIDAE are certainly a very archaic family representing one of the stages in the development of the Neococcoidea out of the Archaeococcoidea (ORTHEZIIDAE, MARGARODIDAE). It is certainly much more archaic than the COCCIDAE or the PSEUDOCOCCIDAE. Its phylogenetic position is at the beginning of the NEOCOCCIDAE together with the PHOENICOCOCCIDAE and perhaps with the DACTYLOPIIDAE.

NEW SPECIES OF *APION* FROM TIBET (COL., CURCULIONIDAE)

By J. Balfour-Browne, M.A., F.Z.S., F.R.E.S.

Apion paracoeleste sp. n.

♂♀. Derm black, the elytra bluish-metallic; rostrum in both sexes obsoletely but distinctly and finely microreticulate, curved, cylindrical; pronotum as wide as long, distinctly punctured, anteriorly moderately strongly constricted; elytra strongly and deeply striate; legs moderately long and slender.

Head slightly wider than long, the eyes moderately prominent, rather rounded; frons as wide as the base of the rostrum, flat, microreticulate, with two longitudinal series of punctures extending on to the base of the rostrum; temples moderate, about three-fifths of the diameter of the eye, rather rugose-punctate. *Rostrum* of male shorter than the head and pronotum but longer than the pronotum alone, of the female as long as the head and pronotum taken together, cylindrical, weakly curved, rather slender, slightly wider from the base to the antennal insertion than beyond the antennal insertion, parallel-sided; basally distinctly punctured, the interstices distinctly microreticulate, apically extremely finely and sparsely, more distinctly laterally, punctulate, sub-obsoletely reticulate laterally, quite shining dorsally; a vague trace of the basi-lateral sulcus occasionally present. *Antennae* quite long and slender, inserted at one-third of the length of the rostrum from the base in the male, at one-quarter in the female; scape short, one and one-third times the length of the basal segment of the funicle which is not longer but is one and one-half times wider than the second funicular segment; third to seventh segments progressively shorter but barely wider, seventh square; club elongate fusiform, widest at middle segment which is nearly twice as long as the basal segment; fusco-testaceous basally, fuscous apically, club black; throughout clothed with rufescent setae. *Pronotum* not longer than wide, widest at base which is almost straight; sub-basal and sub-apical constrictions well marked, the sides at middle rather markedly rounded; dorsal outline very weakly convex; sub-obsoletely punctured, the interstices on the disc about equal to the diameter of the punctures, each of which bears a short fine greyish-white hair; a shallow medio-dorsal sub-basal fovea more or less developed. *Scutellum* small, triangular, as long as wide at the base. *Elytra* ovate, sides well rounded, widest at middle; humeral callus well developed; dorsal outline highly and quite evenly convex; quite strongly striate, the striae distinctly catenate-punctate, the punctures appearing eccentric, the intervening space between neighbouring punctures about half the diameter of the puncture and bearing a very short golden hair; interstriae convex, very finely and sub-obsoletely microreticulate, dull, obscurely bilinearly set with very fine punctures, each bearing an excessively short fine golden hair; striae 1 and 2 uniting with 9 at apex; elytral apices rounded in both sexes. *Venter* distinctly microreticulate; metasternum finely and sparingly, apparent first and second ventrites more strongly but sparingly, apparent fifth ventrite quite strongly and quite densely punctured, more strongly,—almost rugosely,—in the male than in the female, all punctures bearing greyish-white hairs. *Legs* long and slender, hind femora just reaching the apex of the elytra; tarsi short, second segment of hind tarsi half the length of the basal segment, third segment deeply bilobate, wider than long, apparent fourth segment not longer than the basal segment; claws strong, black, very sharply curved close to the base and rather long, rather acutely dentate at the base beneath.

Length: 2·22–2·53 mm. (*sine rostro*).

Holotype ♂, Tibet: Rongshar Valley, 10,000 ft., 26.vi.1924 (*Maj. R. W. G. Hingston* coll.) (1924 Mt. Everest Expedition). *Allotype* ♀, same locality but

11,000 ft., 27.vi.1924. *Paratypes*, 3 ♂♂, same particulars as holotype; 2 ♂♂, 1 ♀, same particulars as allotype; 1 ♂, INDIA: Darjeeling (*G. Rogers* coll.) (*coeleste* Fst. ♀, Wagner det.).

This species runs to *coeleste* Fst. in Wagner's key (1906–08, *Münch. koleopt. Z.* **3**: 196, 310) to the species of the *elegantulum*-group, but it is easily distinguished from that species by the more finely punctured rostrum, the more obsoletely punctured pronotum with distinct sub-basal and sub-apical constrictions (obsolete in *coeleste*) and much more finely punctured venter, as well as by the larger size and less brightly metallic colour of the elytra.

Apion kaulbacki sp. n.

♂. Derm black, elytra faintly bluish-metallic; scutellum extremely short, barely visible; elytra elongate-oval, humeral callus very obsolete; first stria attaining the base of the elytra; elytra distinctly striate, the strial punctures very obsolete; legs short; claws simple.

Head twice as wide as long, eyes not very prominent, moderately rounded; frons very strongly and vaguely linearly punctate, as wide as the base of the rostrum, flat, slightly longitudinally rugose; vertex decidedly rugose due to the closeness of the punctures, interstices of punctation very obsoletely microreticulate; temples linear; beneath the eyes and behind the temples transversely finely ridged. *Rostrum* very slightly longer than the pronotum, stout, cylindrical, slightly curved, moderately strongly and densely punctured, particularly at the base where the punctures are somewhat linear, the punctural interstices throughout more or less distinctly microreticulate except at the extreme apex; at the apex beneath with a shining median longitudinal ridge with an impressed punctate line on each side, the punctures therein numbering four to five and separated each from its neighbouring puncture by a space about equal to the diameter of the punctures; beneath the antennal insertion strongly and deeply microreticulate, shagrinate. *Antennae* inserted at about one-third of the length from the base, quite short and stout; scape short, barely one and one-half times the length of the basal segment of the funicle which is twice as long as wide and one-quarter longer than the second segment; third to seventh segments progressively shorter but barely broader; seventh square; club ovoid, quite elongate, the basal segment as long as the second and third segments taken together; entire antenna clothed with sparse brownish-grey setae. *Pronotum* one-fifth longer than wide, widest at middle, sides weakly rounded, sub-basal and sub-apical constrictions quite obsolete; base evenly rounded; dorsal outline very weakly convex, almost flat; strongly, evenly and quite densely punctured, the punctures on the disc separated from each other by about three-quarters of their diameter. Interstices finely and obsoletely microreticulate except at the base where the reticulation is quite distinct; a distinct but shallow medio-dorsal striole or elongate fovea sub-basally. *Scutellum* punctiform, barely visible. *Elytra* elongate-oval, faintly bluish-metallic; humeral callus very obsolete but the shoulder quite distinct in comparison with related species; dorsal outline very flatly rounded except posteriorly; sides weakly rounded to the widest point which is behind the middle, then more strongly rounded to the apex; shallowly but distinctly striate, the strial punctures decidedly obsolete and separated by a space twice to three times their diameter; striae 1 and 2 uniting with 9 at apex; stria 1 quite attaining to the base; interstriae flat, three times as wide as the striae, shining, distinctly and finely irregularly bilinear punctulate except at the sutural margin which is regularly unilinear punctulate, the punctures throughout bearing fine reddish-golden setae. *Venter* shining, metasternum and apparent first and second ventrites moderately finely and distinctly but sparsely punctate; apparent fifth ventrite closely, strongly and sharply punctate, the punctures separated by not more than half their diameters. *Legs* short, trochanters rather strongly punctured; hind femora not attaining the apex of the abdomen;

tibiae quite short, the four posterior ones without an interno-apical spur; tarsi short, the three basal segments subequal in length and breadth, the apparent fourth segment equal to the two basal segments taken together; claws short, simple, evenly curved.

Length: 2·5–2·6 mm. (*sine rostro*).

Holotype ♂, East Tibet: Lhodzong, Poshō, 12,600 ft., 15.v.1936 (*R. J. H. Kaulback* coll.). *Paratype* ♂, same particulars.

This species belongs to the *ebeninum*-group (the so-called sub-genus *Synapion* Schilsky), and is apparently most closely related to *pistillum* Fst. which I have not seen, from Transcaspia: Issyk-Kul, Przewalsk, according to Schilsky's key (Kuster-Kraatz, 1906, *Käf. Eur.* **43**: xxxiv). Faust does not name the sex of specimen(s) used for the description and Schilsky later described a species on the male only from the same area, *substriatum* Schilsky, which Wagner (1906–08, *Münch. koleopt. Z.* **3**: 195) synonymises with *pistillum*. Schilsky describes *substriatum* as possessing "unten am Kinn befindet sich ein schwaches Höckerchen" but makes no mention of this structure in his description of *pistillum* based upon a specimen in the Dresden Museum (Faust's type?), which he presumed to be a female. Wagner states that this process of the (?) submentum is distinctly visible in Faust's type, which suggests that a critical re-examination of the original types is necessary. *A. kaulbacki* definitely possesses no such structure and both specimens before me are indubitably males, the holotype having been selected as having the apex of the aedeagus visibly protruding and the apparent fifth ventrite of the paratype having the same structure—transverse, not triangular—as in the holotype. *A. kaulbacki* further differs from *pistillum* by the stronger elytral striae which could not be described as "obsoletissime" and the definitely flat irregularly biseriate interstriae and also by the distinctly rounded base of the pronotum.

A. irkutense Fst. appears also to be closely related but the description indicates that the elytral striae are distinctly catenate-punctate which should separate it from the new species without difficulty.

Apion tibetanum sp. n.

♂. Derm black, antennae and legs fuscous; rostrum weakly inflated at antennal insertion; frons strigulose; antennae of the same thickness from the scape to the seventh segment; scutellum very small, punctiform; elytra elongate-oval, humeri obsolete, striae strongly impressed; legs short, basal segment of the hind tarsus with a strongly developed termino-ventral spine; claws short, simple.

Head twice as wide as long, eyes not prominent, moderately rounded; frons quite as wide as the base of the rostrum, flat, irregularly longitudinally strigulose, reticulate, very finely punctured and with sparse short white hairs; temples about half the diameter of the eye, rugose; head beneath strongly but finely alutaceous, the "neck" coarsely transversely ridged and shining. *Rostrum* as long as the head and pronotum together, stout, distinctly curved, cylindrical, distinctly but weakly widened at the antennal insertion, thence parallel-sided to the apex; dull alutaceous, basally impunctate, sub-apically shallowly but distinctly, almost rugosely punctate, apically subnitid; ventrally quite smooth and shining. *Antennae* inserted at one-fifth of the length from the base of the rostrum, stout, short and of even thickness; scape short, as long as the two basal segments of the funicle taken together; proximal segment of the funicle stout, one and a half times longer than wide, nearly three times as long as the second segment which is as long as wide; third to seventh segments equal in length and breadth; club fusiform. *Pronotum* barely longer than wide (1·7 : 1·5), sides weakly rounded; sub-basal and sub-apical constrictions obsolete, apex barely narrower than the base; strongly and evenly punctured, the punctural interstices

equal to the diameter of the punctures, distinctly but finely microreticulate; base nearly straight; dorsal outline about equal to the lateral convexity; a distinct, sharply impressed medio-dorsal sub-basal striole or elongate fovea. *Scutellum* minute, punctiform. *Elytra* elongate-oval, the humeri very obsolete, at the sides very little rounded, almost parallel-sided about the middle; strongly and sharply striate, the striae catenate-punctate, the punctures distinct and separated from each other by a space about equal to half the diameter of the punctures; striae 1 and 2 uniting with 9 at apex; interstriae narrow, little wider than the striae, convex, sub-shining, transversely finely striolate, with an irregular, almost unilinear series of fine but distinct punctules, each bearing a fine greyish-white hair; elytral apices rectangular; dorsal outline very slightly convex anteriorly, the posterior declivity abrupt. *Venter* quite dull, alutaceous, strongly, deeply and evenly punctured, the punctures separated from each other by a space about equal to their diameters; fifth ventrite not clearly visible but it appears to be largely rounded, not transverse. *Legs* short, the hind femora not exceeding the base of the fifth ventrite; anterior tibiae simple; tarsi quite short and not wider at the bilobate third segment; the basal segment of the hind tarsi rather deep and developed into a strong, acute termino-ventral spine, the second segment also rather deep but simple; segments of the intermediate tarsus simple; claws short, simple.

Length: 2·20 mm. (*sine rostro*). Width: 0·87 mm.

Holotype ♂, East Tibet: Lhodzong, Poshō, 12,600 ft., 15.v.1936 (*R. J. H. Kaulback* coll.). Unique!

This species belongs to the so-called subgenus *Ceratapion* Schilsky, characterised by the nearly uniform thickness of the antennal funicle, the almost cylindrical pronotum, the dilation of the rostrum at the antennal insertion and the sharp tooth on the basal segment of the hind tarsus of the males. The specimen runs to the *perlongum–macrorhynchum* couplet of Schilsky's key (Kuster-Kraatz, 1906, *Käf. Eur.* **43**: xxi) both of which were described on unique females. A third species, *sejugum* Desbr., synonymised with *macrorhynchum* by Wagner (1908, *Ent. Blätt.* **4**: 104) was also based on a unique female. *A. tibetanum* differs from these species by the irregularly unilinear interstrial punctures of the elytra and from *perlongum* by the punctate rostrum. It must also be close to *opacinum* Fst. from Eastern Siberia, but the rostrum of that species is also said to be impunctate and the interstrial punctures very obsolete.

Apion hingstoni sp. n.

♂. Derm black, scape of antenna rufo-flavous, elytra feebly metallic blue-black, clothing scanty, white; rostrum curved, weakly attenuate to the apex; eyes large, beneath with moderately dense white hairs; pronotum strongly reticulate, strongly but shallowly punctured, the punctures reticulate; scutellum very small; elytra ovate, humeri not very pronounced; striae strongly impressed, catenate-punctate; interstriae flat, one and a half times as wide as the striae, transversely striolate with a unilinear series of fine punctures; legs long and slender; basal segment of the four hind tarsi with a strong acute termino-ventral spine; claws long, sharply bent at the base and with a distinct acute sub-basal ventral tooth.

Head as long as wide; eyes moderately prominent, regularly rounded; frons flat, as wide as the base of the rostrum, very obsoletely longitudinally bisulcate, very strongly alutaceous or shagrinate; vertex obsoletely rugose owing to the large shallow reticulate punctures; temples half the diameter of the eye, shagrinate; beneath the eye densely punctate or rugose; frons and vertex sparsely clothed with white hairs or very narrow scales; circum-orbital hairs pronounced; beneath the eye moderately densely clothed with white hairs or narrow scales with truncate apex. *Rostrum* longer than the pronotum but not as long as

the head and pronotum taken together, curved, cylindrical, stout and nearly parallel-sided from the base to the antennal insertion, thence to the apex weakly but visibly attenuate; basally alutaceous, very obsoletely punctate, the dorsal punctures forming a series on either side of the middle line and appearing as a shallow sulcus; beyond the antennal insertion distinctly, finely and fairly closely punctured, surface between the punctures smooth and shining, the interstices of the punctuation being two to three times the diameter of the fine punctures; basi-laterally obsoletely sulcate, alutaceous. *Antennae* inserted at one-quarter of the length from the base of the rostrum, moderately long and slender; scape long, as long as the four basal segments of the funicle taken together, rufo-flavous with the apex lightly infuscate; basal segment of the funicle ovoid, one and a half times longer than wide and not longer than the second segment; third to seventh segments sub-equal in length but very slightly broader towards to apex, seventh as long as wide; club short oval, basal segment as long as the second and third taken together and twice as long as wide. *Pronotum* as long as wide, widest at the base, sub-basal constriction almost obsolete, sub-apical very strongly marked; sides to middle nearly parallel, thence abruptly attenuate to the sub-apical constriction; apex strongly rim-like; strongly alutaceous, dull, closely, evenly and largely punctured but very shallowly, the punctures alutaceous; the surface vaguely rugose owing to the closeness of the punctures, each of which bears a moderately long fine white hair; sub-basal medio-dorsal fovea very fine and shallowly but sharply impressed. *Scutellum* very small, triangular, not longer than wide and slightly inflated. *Elytra* ovate, humeral callus not particularly prominent; dorsal outline moderately highly convex, highest at middle; strongly, sharply and deeply striate, the striae catenate-punctate, the punctures excentric, the space between neighbouring punctures nearly twice the diameter of the punctures; striae rather deeply impressed at base, the base apparently slightly carinate; stria 1 uniting with 9, stria 2 with 7 and 8 at the apex; interstriae flat, one and a half times the width of the striae, transversely distinctly striolate, dull, with a unilinear series of fine punctules, each bearing a short, curved, semi-erect white hair; apices rounded rectangular; sides moderately rounded, widest at middle. *Venter* reticulate, metasternum with a few obsolete punctures laterally; apparent first, second and fifth sternites rather strongly punctured; anterior edge of procoxae and mesosternal episterna with moderately dense white hairs, the remainder of the surface sparsely similarly clothed. *Legs* long and slender, hind femora not quite reaching the apex of the abdomen; tarsal segments long, second nearly twice as long as wide at the apex; proximal segment of the four hind tarsi developed into a stout, acute termino-ventral spine; claws long, abruptly bent at the base, with an acute sub-basal ventral tooth.

Length: 2·67–2·88 mm. (*sine rostro*).

Holotype ♂, Tibet: Rongshar Valley, 10,000 ft., 26.vi.1924 (*Maj. R. W. G. Hingston* coll.) (1924 Mt. Everest Expedition); *Paratype* ♂, same particulars.

This species appears to belong to the *ervi*-group but is not particularly close to any of those named in the British Museum or any others of which I have been able to see the original descriptions. It must remain as a rather isolated species until further material from West China and the Himalayas can be studied.

All the material described above is in the British Museum (Natural History).

DESCRIPTIONS OF NEW STAPHYLINIDAE (COLEOPTERA)[1]

By Malcolm Cameron, M.B., R.N., F.R.E.S.

Staphylinus (Abemus) marginatus sp. n.

Head and thorax bronze green, the latter with the side margins, base and middle of the anterior border narrowly reddish-yellow: elytra black, the suture, posterior margin and sides narrowly reddish-yellow: abdomen smoky brown, the raised side margins reddish-yellow, with brown bifariate pubescence on the first five visible tergites with small patch of short golden-yellow pubescence in the middle. Antennae dark brown, the 1st segment and legs reddish-yellow, the femora black below. Length 16 mm.

Apparently near *circumcinctus* Bernh. Head subquadrate, temples parallel, shorter than the eyes, closely covered with small umbilicate punctures and long close golden-yellow pubescence. Antennae short with transverse penultimate segments. Thorax transverse, at the middle of the base with small shining plaque, the sculpture and pubescence as on the head. Elytra as long as the thorax, coriaceous, scarcely punctured, the pubescence as on the thorax, scarcely marmorate. Abdomen coriaceous, scarcely punctured, the pubescence as on the fore-parts.

♂. 5th sternite with small obtuse emargination; 6th with rather deep arcuate emargination, its edges membranous.

Bengal: Kalimpong, Samsingh, altitude 1800 feet. Unique. My collection.

Staphylinus (Ocypus) bicolor sp. n.

Rather shining, black, the elytra red, the extreme base narrowly blackish. Antennae and legs black, the last two segments of the former reddish. Length 17 mm.

In build similar to *globulifer* Geoff. but with shorter antennae, the puncturation of the head and thorax finer, the elytra red. ♂. Head transversely subquadrate, slightly broader than the thorax, the post-ocular region rounded with the base and about as long as the eye, on the vertex with a short narrow impunctate space, elsewhere closely and distinctly less coarsely punctured than in *globulifer*. Antennae with the penultimate segments about as long as broad. Thorax a little longer than broad, distinctly narrowed behind, along the middle of the posterior half with a narrow impunctate line, elsewhere as closely but less coarsely punctured than the head. Elytra as long as the thorax, very similarly punctured and covered with long golden pubescence. Abdomen closely, moderately finely punctured, the pubescence black. 6th sternite narrowly and deeply excised.

Punjab: Lyallpur, 23.vi.39 (*M. A. Gham*). Unique. In the British Museum (Natural History).

Ontholestes assamensis sp. n.

Black, dull: base of the scutellum with some golden hairs, the elytra mottled with golden and black pubescence: abdomen with the first two visible tergites each with a small triangular spot of golden pubescence at the middle of the base, at each side with a larger patch of similar colour; 3rd with small median basal spot of silvery pubescence and at the sides with a few silvery hairs; 4th with a patch of silvery pubescence on each side at the base; 5th with transverse basal fascia of silvery hairs. Antennae and legs black. Length 12 mm.

[1] Continued from 1943, *Proc. R. ent Soc. Lond.* (B) **12**: 132.

Size and build of *aurosparsus* Fauv., the antennae similarly constructed but at once distinguished by the entirely black antennae and legs, the entirely black and not variegated head and thorax and the elytra being entirely golden and black without silvery pubescence : the pubescence of the abdomen scarcely differs from that of *aurosparsus*.

Assam : Shugan, altitude 3000 feet. Type in my collection.

Philomyceta gen. nov. **Xanthopygi.**

Facies much resembling *Philothalpus* but readily recognised by the abdominal characters. Head orbicular or transversely suborbicular. Labrum short, transverse with well-developed membranous margin with small rectangular emargination in the middle. Mandibles long and slender, falciform, edentate, obtusely angulate a short distance before the base. Maxillary palpi long, filiform, the 1st segment short, 2nd elongate, curved, gradually and distinctly thickened towards the apex, 3rd a little shorter than the 2nd, 4th distinctly longer than the 3rd, pointed. Inner lobe of maxilla broad, densely ciliate, the outer much narrower and densely ciliate. Mentum strongly transverse, trapezoidal. Tongue very small and short, triangular with a small notch at apex. Paraglossae well developed. Labial palpi elongate, filiform, the 1st segment about half as long as the 2nd, 3rd a little shorter than 2nd, gradually thickened towards apex and pointed. Pronotum with the superior curved line but little deflexed, meeting the inferior at the anterior margin; prothoracic stigma exposed. Mesosternum pointed, extending about half the length of the coxae and separated from the rounded apex of the metasternum by a short intersternal piece, the coxae moderately separated. Legs rather long, the middle tibiae with a few spines externally. Anterior tarsi dilated in both sexes, more strongly in the ♂; middle and posterior elongate, slender, the 1st segment rather long, the 2nd to 4th gradually decreasing in length. Abdomen a little narrowed towards the apex, the first four visible tergites each with a transverse impression at the middle of the base limited on each side by a short keel. The species occur in fungus.

Type of the genus the following species :

Philomyceta caeruleipennis sp. n.

Head, thorax and scutellum black, dull, elytra and abdomen more shining, the former deep blue, here and there with purple reflex, the latter black with the posterior margin of the 5th visible tergite and whole of the 6th bright yellow. Antennae with the 1st segment reddish-brown, the last four yellow, the intermediate black. Legs yellowish-red. Length 10–11 mm.

Head transverse, suborbicular, broader than the thorax, the eyes moderate, closely covered with moderate umbilicate punctures. Antennae of moderate length, the 3rd segment longer than the 2nd, 4th to 9th all longer than broad, decreasing in length, the 10th as long as broad. Thorax longer than broad (6·5 : 5·5), broadest at the rounded anterior angles, the sides from thence straight and distinctly retracted to the rounded posterior angles, in the middle a little before the base sometimes with trace of short shining line, the sculpture as on the head. Scutellum closely punctured, rugulose and coriaceous. Elytra longer (8 : 6·5) and broader than the thorax, rather finely, closely and roughly punctured, rather closely pubescent. Abdomen a little narrowed towards the apex, rather closely and less finely punctured at the bases of the tergites, more finely but equally closely elsewhere. Head and thorax with very fine, scanty pubescence, abdomen with fine but much closer pubescence.

♂. 6th sternite with broad arcuate emargination.

Darjeeling : Ghum district. Type in my collection.

Philomyceta affinis sp. n.

Very similar to *caeruleipennis* Cam. but at once distinguished by the black legs and also differs in the following respects: the head and thorax are not so dull, the former less transverse and with a shining plaque on the vertex, the elytra with greenish reflex at the base and apical margin, in other respects similar.

DARJEELING: Ghum district. Type in my collection.

Algon excellens sp. n.

Rather shining; head and thorax dark violet, elytra bright blue; abdomen black. Antennae with the 1st segment pitchy, the following reddish. Legs black. Length 15 mm.

Readily recognised by the colour. Head transverse, suborbicular, narrower than the thorax, eyes large, temples short, the posterior angles obtuse, the base obliquely retracted to the neck; very sparingly and finely punctured except at the base which is coarsely and rugosely punctured. Antennae with the 3rd segment longer than the 2nd, 4th to 10th all longer than broad, decreasing in length. Thorax slightly broader than long, convex, the sides evenly rounded, more retracted towards the front, all the angles rounded, the punctuation very fine and scattered as on the head. Scutellum black, closely punctured. Elytra as long but scarcely as broad as the thorax, rather closely, moderately coarsely punctured. Abdomen a little narrowed towards apex, rather finely and moderately closely punctured and with greyish pubescence. Fore-parts without ground sculpture, that of the abdomen very fine and transverse.

♂. 6th sternite with narrow, rather deep arcuate emargination.

ASSAM: Shillong, altitude 6000 feet. Unique. My collection.

Quedius (s.str.) **kashmirensis** sp. n.

Shining, black, the elytra blue, abdomen somewhat iridescent. Antennae and legs black. Length 9 mm.

Head orbicular, narrower than the thorax, eyes large, about three times as long as the post-ocular region. Labrum truncate, along the middle with impressed line; median inter-ocular punctures a little further from each other than from the lateral, behind the eye with three or four small punctures; ground sculpture fine and wavy, more or less transverse. Antennae long, the 3rd segment longer than the 2nd, 4th to 7th longer than broad, decreasing in length, 8th to 10th as long as broad. Thorax slightly transverse (6·5 : 6), narrowed towards the front, on each side before the middle with three punctures placed obliquely, the ground sculpture as on the head. Scutellum impunctate. Elytra longer (8 : 6) and broader than the thorax, moderately finely and moderately closely punctured, finely pubescent; ground sculpture absent. Abdomen narrowed towards the apex, more finely but about as closely punctured on the anterior segments as the elytra, more sparingly behind, the pubescence rather long and with a few longer setae: ground sculpture very feeble.

KASHMIR: Gulmarg. Unique. My collection.

Quedius (**Microsaurus**) **flavocaudatus** sp. n.

Shining, head and thorax black, elytra red, abdomen black, iridescent, the last two tergites reddish-yellow. Antennae black, the last four segments pale yellow. Legs dark, tarsi reddish-yellow. Length 12 mm.

In build very similar to *lateralis* Gr. but with broader head. Head almost as broad as the thorax, the curvature of the eye as long as the rounded post-ocular region, behind the eye with two large punctures, elsewhere with an extremely fine scattered puncturation, the

ground sculpture fine, transverse, wavy. Antennae extending nearly to the base of the thorax, 3rd segment longer than 2nd, 4th slightly longer than broad, 5th to 10th scarcely differing, as long as broad. Thorax transverse, the sides rounded, more retracted in front, obliquely impressed postero-laterally, on each side of the middle in the anterior half with four large punctures, the sculpture as on the head. Scutellum black, impunctate, the base finely wrinkled. Elytra a little longer than the thorax, closely, rather coarsely punctured and without ground sculpture. Abdomen very finely, moderately closely punctured, the ground sculpture extremely fine, transverse.

♂. 6th sternite with small triangular impression at the middle of the posterior border, its base emarginate.

United Provinces: Naini Tal, altitude 6000–8000 feet. Unique. My collection.

Quedius (Sauridus) deceptor sp. n.

Shining, black, the elytra bronze green. Antennae and legs black. Length 7 mm.

Very similar to *chatterjeei* Cam. in general appearance especially in the colour and sculpture of the elytra; it is at once distinguished, however, by the dark legs, smaller eyes, blacker abdomen, the punctures of the humeral row larger and between the rows with more numerous small punctures; in other respects like *chatterjeei*.

Darjeeling: Ghum district. Unique. My collection.

Quedius (Raphirus) decipiens sp. n.

Very closely allied to *muscicola* Cam. but differing in the following respects: elytra with less marked metallic reflex and obviously more finely punctured, the abdomen without tufts of golden pubescence at the sides of the tergites, the pubescence there although thicker than elsewhere of a greyish colour as on the rest of the surface and finally the posterior tibiae are black. Length 6 mm.

Darjeeling: Ghum district: Mangpu. Unique. My collection.

Quedius (Raphirus) heterogaster sp. n.

In size, build, colour of antennae and body similar to *aureiventris* Bernh. but at once distinguished by the much more sparingly punctured and much more sparingly pubescent abdomen, the pubescence yellow at the sides. The legs are entirely reddish-yellow. In all other respects like *aureiventris* but the abdomen strikingly different. Length 4·75 mm.

United Provinces: Chakrata district: Kanasar. Type in my collection.

Trichophya kashmirica sp. n.

Size, build, colour and lustre of *pilicornis* Gyll. and only differing in the following respects; the punctures of the head are a little larger and deeper, the antennae similarly constructed but a little shorter, sculpture of the thorax less fine and less close, but that of the elytra and abdomen scarcely differing from *pilicornis*.

Kashmir: Gulmarg, altitude 8000–10,000 feet. Type in my collection.

Trichophya andrewesi sp. n.

Moderately shining, the head black, the rest pitchy black to pitchy brown. Antennae yellow, the 7th to 10th segments infuscate. Legs yellow. Length 1·75 mm.

Narrower than *antennalis* Cam., the sculpture of the fore-parts similar in character but

finer and closer, that of the abdomen also finer. Antennae shorter and more slender than in that species but similar in structure.

Nilgiri Hills (*Andrewes*). Type in my collection.

Mimodictyon gen. nov.

Of the build of *Dictyon* Fauv. and closely related to it and also *Paradictyon* Scheerp. but differing from both in certain respects. Very small, convex, the abdomen strongly narrowed to the apex and retractile, the first three visible tergites strongly, the following very finely bordered, the 5th and 6th both much longer than the 4th, the 5th with fine white membranous posterior margin. The elytra only feebly arcuately emarginate postero-externally, the reflexed sides vertical and without keel. Head short, transverse, the base inserted in the thorax, the neck broad, the eyes small, the post-ocular region rounded and retracted to the neck. Labrum transverse, the anterior border gently rounded, finely membranous. Mandibles small, pointed, each with a sharp tooth behind the apex, the right sometimes with a second much smaller one also. Maxillary palp with four segments, the 1st very small, 2nd elongate, a little curved and thickened towards the apex, 3rd as long as the 2nd, more enlarged towards the apex, 4th subulate, half as long as the 3rd. Inner lobe of maxilla narrow, pointed, closely set with slightly curved spines, outer lobe narrow and pointed, ciliate at apex. Mentum transverse, trapeziform. Tongue short and broad with small notch in the anterior border and a long seta on each side. Labial palpi with three segments, the 1st small, as long as broad, 2nd large, oval, 3rd very narrow, elongate, distinctly longer than the 2nd. Prosternum moderately long, rounded behind, finely keeled along the middle. Pronotal epipleura small and but little developed. Mesosternum broadly, slightly arcuately emarginate in front, carinate, its process narrow and acute, meeting the anterior border of the short broad metasternum, the middle coxae narrowly separated. Metasternum broadly arcuately emarginate on each side posteriorly for the large broad flattened posterior coxae, the inner plate of which is subquadrate, contiguous with its fellow and with a small notch in its posterior margin, the outer plate large and nearly semicircular. Femora flattened, deeply sulcate for reception of the tibiae. All the tarsi 5-segmented, the anterior as long as the tibia, the first four segments short and subequal; middle as long as the tibia, the 1st segment as long as the three following together; posterior longer than the tibia, the 1st segment as long as the 2nd and 3rd together.

Type of the genus the following species:

Mimodictyon indicola sp. n.

Moderately shining, entirely reddish-yellow. Antennae, palpi and legs yellow. Length 1·3 mm. (abdomen well extended).

Head transverse, narrower than the thorax (2 : 3·5), with a few minute, scarcely visible punctures and fine yellow hairs: ground sculpture absent. Antennae short, the first two segments of equal length, stout, 4th to 7th small, slightly transverse, differing but little, 8th larger and more transverse, 9th and 10th yet larger and stouter, 11th elongate, as long as the three preceding together, so forming a stout four-segmented club. Thorax convex, transverse (3·5 : 2), the sides rounded and retracted towards the front, the posterior angles rectangular, the puncturation very fine but closer and not so fine as on the head, the pubescence similar; ground sculpture absent. Scutellum without sculpture. Elytra at the suture as long as the thorax, of equal breadth, the puncturation extremely fine, rather close, distinctly finer and closer than on the thorax and with fine reticulate ground sculpture and yellow pubescence. Abdomen with very fine, moderately close punctures, reticulate ground sculpture and yellow pubescence which is longer and less fine than on the fore-parts.

Siwaliks: Nakraunda. In rotten wood. Type in my collection.

Book Notices.

The Butterfly Fauna of Ceylon. By L. G. O. Woodhouse and G. M. R. Henry. Colombo (The Surveyor-General's Office), 1942. pp. xviii + 172. Large 4to. 51 plates, 6 text-figures. Price £1 10*s*.

This fine illustrated book gives coloured illustrations of all species of butterfly which have been found so far in Ceylon. Not since Moore's *Lepidoptera of Ceylon*, published in 1880–81, has the entomologist been able to find in one volume all the information he might reasonably seek on Ceylon butterflies, for Ormiston's book, published in 1924, was admittedly no more than a supplement to Moore.

The present work is intended to provide " a ready means for identifying all the butterflies, seen or captured ", and the authors hope that, as one result of its publication, enthusiasm may be aroused and the life histories of all the species fully worked out. In addition to the scientific name of every species described, a popular English name is given.

For each species such information as is known concerning the early stages is given, with a description and a reference to the coloured illustrations. In addition to these last a number of black-and-white drawings of the eggs, larvae, and pupae are supplied.

Three indices are included in the book : an index of genera and species ; an alphabetical index of common names ; and an alphabetical list of those plants on which Lepidoptera are known to feed.

In the long introduction there is a brief history of the study of Ceylon butterflies, an elementary description of the various parts of the insects, notes on classification and nomenclature, habits, protective resemblance and mimicry, variation, distribution, and a long section giving much first-hand information on methods of collecting and preserving butterflies, a subject in which the senior author is particularly interested.

The only adverse criticism of the book is that the tissue paper intended to protect the coloured plates has been made to carry the printed explanations of the plates, a practice not conducive to ease in using the volume.

Termites (Isoptera) from the Australian Region. By Gerald F. Hill. Melbourne (Council for Scientific and Industrial Research), 1942. pp. 479, 24 pls., text illust. 8vo.

This catalogue of Australian termites is reproduced by the off-set process in imitation type-written characters, and is illustrated by twenty-four half-tone plates. The author recognises four families, twenty-five genera and subgenera. one hundred and ninety-three species and eight subspecies, of which thirty-two species are described as new.

The book is systematically arranged under species, reference being made to the original description, and the synonymy is given where necessary. A description of the winged adult and the soldier is given for 170 of the species, including a small number of cases where these castes are described for the first time.

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MEETINGS

TO BE HELD IN THE SOCIETY'S ROOMS

41, Queen's Gate, S.W.7

1944.

Wednesday,	March	1
,,	April	5
,,	May	3
,,	June	7
,,	October	4
,,	November	1
,,	December	6

1945.

Wednesday,	January	17 (Annual Meeting)
,,	February	7

THE ROYAL ENTOMOLOGICAL SOCIETY OF LONDON

The Fellowship and Fees

Fellows pay an Admission Fee of £3 3*s*. The Annual Contribution of £2 2*s*. is due on the first day of January in each year, and is payable in advance. Fellows under the age of 25 years may pay the entrance fee in three equal annual instalments.

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Forms of application for Fellowship, copies of the Bye-Laws and the List of Fellows may be obtained from the Registrar.

Meetings and Exhibitions

Fellows and others wishing to make a communication to a General Meeting of the Society are requested to send in their names, the title of their exhibit, and a short abstract of their remarks, to the Registrar fourteen days before the meeting at which it is proposed to make the communication. Should it be desirable to publish a fuller account of the communication the manuscript may be submitted for publication in *Proceedings Series A* or *Series B*. If the epidiascope is required, 24 hours' notice must be given. Objects for projection should not exceed 6 ins. by 6 ins.

Fellows resident abroad, or otherwise unable to attend meetings, are reminded that notes or observations sent to the Secretary may be communicated to a General Meeting on their behalf.

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